

### **REMARKS/ARGUMENTS**

Claims 11-18 now stand in the present application, original claims 1-10 having been canceled. Reconsideration and favorable action is respectfully requested in view of the above amendments and the following remarks.

In the Office Action, the Examiner has rejected original claims 1-5 and 8-10 under 35 U.S.C. § 102(e) as being anticipated by Gibbon et al. ("Gibbon"), and has rejected original claims 6 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Gibbon in view by Baudat et al. ("Baudat"). As noted above, Applicants have canceled original claims 1-10 in lieu of the newly added claims 22-18. The newly added claims are believed to patentably define over the cited references as will be described in greater detail below.

New independent claims 11 and 15 now more clearly defined Applicants' inventions. For example, claim 11, elements (i) and (ii) now more clearly reads onto the features described in relation to Figure 6 and the accompanying text at page 15, lines 4 to 26, relating to feature extraction from an input video/audio sequence for use as training samples. While elements (iii) to (v) relate to using the extracted features as training samples to generate class models.

More particularly element (i) of claim 11 has been amended to include a reference to a feature extraction module, as well as extracting both visual and audio feature vectors from the training set. Support for this amendment can be found on page 15, lines 4 to 21. Element (ii) of claim 11 has been amended to include a reference to a feature binder, as well as features from original claim 8 (now deleted) relating to the normalising and concatenating of the visual and audio vectors.

New independent claim 15 which corresponds to original claim 9 includes corresponding limitations to those discussed above with respect to claim 11. The newly added claims are believed to more clearly patentably define over the cited art, as will be explained in greater detail below.

Independent claims 11 and 15 now require generating class models from "video sequences" as well as the associated steps for extracting sets of video and audio feature vectors from a training set of video sequences. The claims further specify that the video and audio vectors are combined by normalizing and concatenating, which is discussed in preferred embodiments on page 15, lines 22 to 24, and page 17, lines 3 to 18. Thus, a series of N-dimensional feature vectors are created and the application of principal component analysis or kernel discriminant analysis to reduce the number of dimensions in the feature vector, which would otherwise be too large and complex to be used in later classifications.

It is respectfully submitted that neither Gibbon or Baudat et al. disclose these specific features for extracting both audio and visual feature vectors, followed by the combining of both the audio and visual feature vectors by normalizing and concatenating, before analysing them using PCA or KDA in order to reduce their complexity, before being used in subsequent classifications. Indeed, nowhere in the Final Office Action (or the Office Action dated June 7, 2007 for that matter) does the Examiner identify any portion of either reference as teaching or even suggesting the combining element required in original claim 8 and now required in independent claims 11 and 15.

Nor do the cited references teach or suggest storing and using the class model for classifying input data that matches the predetermined class (claim 11) or particular one of the known classes (claim 15). The Examiner's citation to Gibbon at paragraphs [0033] and [0035] do not disclose or suggest these limitations. See Final Office Action at page 4. Paragraph [0033] merely states that the "output of the multimedia content integration unit 360 is stored in database 380 . . . [and] can be subsequently retrieved upon a request from a user. . . " – there is no disclosure that the stored output is used to classify input data that matches the predetermined class or particular one of the known classes, as required by claims 11 and 15, respectively. Paragraph [0035] merely states that multiple or separate databases may be used – there is no disclosure that the stored output is used to classify input data that matches the predetermined class or particular one of the known classes, as required by claims 11 and 15, respectively.

For at least the above reasons, independent claims 11 and 15 and their dependent claims patentably define over the cited art taken singly or in combination.

Moreover, dependant claims 12 and 16 further require that the  $M$  basis vectors are the  $M$  most discriminating basis vectors that maximize between-class variance and minimize within-class variance. Support for these claims can be found in the present specification at page 14, lines 15-18. These claims are also not believed to be taught or suggested by the cited references taken singly or in combination.


Finally, dependent claims 13-14 and 17-18 further require that each video sequence has a non-linear feature distribution. Support for these claims can be found in the present specification at page 14, lines 15-18. These claims are also not believed to be taught or suggested by the cited references taken singly or in combination.

Therefore, in view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all of claims 11-18, now standing in the application, be allowed and that the case be passed to issue. If there are any other issues remaining which the Examiner believes could be resolved through either a supplemental response or an Examiner's amendment, the Examiner is respectfully requested to contact the undersigned at the local telephone exchange indicated below.

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

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